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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,889	03/29/2006	Masanori Masuda	DK-US065037	9922
22919 7590 11/26/2007 GLOBAL IP COUNSELORS, LLP 1233 20TH STREET, NW, SUITE 700 WASHINGTON, DC 20036-2680			EXAMINER DUFF, DOUGLAS J	
			ART UNIT 3748	PAPER NUMBER
			MAIL DATE 11/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,889

Applicant(s)

MASUDA, MASANORI

Examiner

Douglas J. Duff

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/29/06</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. The terms "small" and "large" in claims 4, 7, 11 and 14 are relative terms which render the claims indefinite. The terms "small" and "large" are not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

3. The terms "wide" and "narrow" in claims 6, 9, 13 and 16 are relative terms which render the claims indefinite. The terms "wide" and "narrow" are not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kampf (US 2561280) in view of Inagaki et al. (US 5165878). Regarding claim 1, Kampf

discloses a rotary fluid machine comprising a cylinder (3) having an annular cylinder chamber, an annular piston (35) disposed in the chamber to be eccentric to the cylinder, the piston dividing the cylinder chamber into an outer working chamber (47) and an inner working chamber (49) and a blade (51) arranged in the cylinder chamber to divide each of the outer and inner chambers into a high and low pressure region, the cylinder (3) and piston (35) making relative rotations. Kampf fails to disclose the cylinder chamber having a width that is varied along a circumference of the chamber such that a gap between a wall surface of the cylinder and a wall surface of the piston is kept to a predetermined value during rotations.

6. Inagaki teaches a rotary fluid machine with a cylinder chamber (inside 42) having a width that is varied along a circumference of the cylinder chamber (see Fig. 2, chamber width at top of 42 decreases to chamber width at left side of 42) such that a gap between a wall surface of the cylinder and a wall surface of the piston (32) is kept to a predetermined value (minimum) during rotations (col. 1, lines 60-65). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to utilize a varying width in the cylinder chamber such that a gap is kept to a value in order for the piston and cylinder to have a sealed, precise interaction without efficiency losses due to increased power consumption and heat generation between the moving parts (col. 1, lines 61-65).

7. Regarding claim 2, the modified Kampf device discloses a rotary fluid machine comprising a cylinder (3) having an annular cylinder chamber, an annular piston (35) disposed in the chamber to be eccentric to the cylinder, the piston dividing the cylinder

chamber into an outer working chamber (47) and an inner working chamber (49) and a blade (51) arranged in the cylinder chamber to divide each of the outer and inner chambers into a high and low pressure region, the cylinder (3) and piston (35) making relative rotations without spinning by themselves, the piston (Inagaki 32) has a width that is varied along a circumference of the piston (see Fig. 2 of Inagaki, left side of 32 inside chamber decreases at bottom end of 32 inside chamber) such that a gap between a wall of the cylinder and a wall surface of the piston is kept to a predetermined value (minimum) during rotations.

8. Regarding claim 3, the modified Kampf device discloses the rotary fluid machine of claim 2 including the cylinder chamber having a width that is varied along a circumference of the cylinder chamber (see Fig. 2, chamber width at top of 42 decreases to chamber width at left side of 42) such that a gap between a wall surface of the cylinder and a wall surface of the piston (32) is kept to a predetermined value (minimum) during rotations (col. 1, lines 60-65).

9. Regarding claims 4, 7, 11 and 14, the modified Kampf device discloses the machine of claim 3 including the blade (51) having a center line that is a starting point of the circumference, a width of a part of the cylinder chamber (inside 42, Inagaki) and a width of a part of the piston (32) ranging from the starting point to a point at a rotation angle of 180 degrees from the starting point is large (top starting point, Fig. 2, is large chamber width, small piston width) and a width of another part of the chamber and another part of the piston ranging from 180 degrees to 360 degrees from the starting

point is small (270 degree point in Fig. 2, inside chamber 42, is small chamber width, large piston width).

10. Regarding claims 5, 8, 12 and 15, the modified Kampf device discloses the machine of claims 4 and 7 including a center of an inner circumference of the chamber (innermost end of 42, center of circumference is to the left in Fig. 2) deviated from a center of the outer circumference of the cylinder chamber (outer chambers of 42) and a center of an inner circumference of the piston (inside of 32) deviated from the center of an outer circumference of the piston (outermost end 32) when view along a longitudinal axis of the piston (Fig. 2).

11. Regarding claims 6, 9, 13 and 16, the modified Kampf device discloses the machine of claim 3 including the chamber and piston divided into four regions along the circumference thereof (0, 90, 180 and 270 degree points, Fig. 2) such that the cylinder chamber (42) has wide regions (0, 180) and narrow regions (90, 270) and the piston has wide (90, 270) and narrow (0, 180) regions formed in a continuous and alternate manner.

12. Regarding claim 10, the modified Kampf device discloses the machine of claim 1 where the piston is C-shaped to form a gap (35, Kampf), the blade (51) extends from an inner wall surface to an outer wall surface of the cylinder chamber and passes through the gap of the piston (Fig. 1) and a swing bushing (67) is provided in the gap to contact the piston and blade by surfaces thereof such that the blade (51) freely reciprocates and the blade and piston make relative swings (Fig. 1).

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10/573,889
Art Unit: 3748

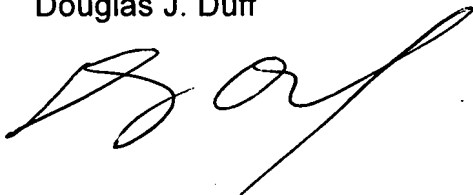
Page 6

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Duff whose telephone number is (571) 272-3459. The examiner can normally be reached on M-Th 7 AM - 5 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Douglas J. Duff



11/20/07


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